AMENDMENT TO THE CLAIMS

Please **AMEND** claims 1-21 as follows.

A copy of all pending claims and a status of each claim is provided below.

1. (currently amended) A method for machining a workpiece made from a titanium-based alloy, comprising ~~the following steps~~:

a) heating of the workpiece in a hydrogen-containing atmosphere, ~~during which step~~ wherein the workpiece takes up hydrogen;

b) cooling of the workpiece;

c) metal-removing machining of the workpiece;

d) heating of the workpiece in a hydrogen-free atmosphere, ~~during which step~~ wherein hydrogen is released.

2. (currently amended) The method as claimed in claim 1, ~~characterized in that~~ wherein the workpiece is heated in ~~vacuo~~ a vacuum in order for hydrogen to be released.

3. (currently amended) The method as claimed in claim 1, ~~characterized in that~~ wherein the workpiece is heated to approximately 973 K for hydrogen to be taken up.

4. (currently amended) The method as claimed in claim 1, ~~characterized in that~~ wherein the hydrogen-containing atmosphere is under a pressure of approximately $5 \cdot 10^3$ Pa.

5. (currently amended) The method as claimed in ~~one or more of the preceding claims, characterized in that~~ claim 1, wherein an ~~the~~ annealing time in the hydrogen-containing atmosphere is at least 2 hours.

6. (currently amended) The method as claimed in claim 1, ~~characterized in that~~ wherein the workpiece is cooled in the hydrogen-containing atmosphere.

7. (currently amended) The method as claimed in claim ~~1, characterized in that~~ 2, wherein the vacuum is at least $2 \cdot 10^{-3}$ Pa.

8. (currently amended) The method as claimed in claim 1 ~~or 2~~, ~~characterized in that~~ wherein an ~~the~~ annealing temperature in the hydrogen-free atmosphere~~, in particular in the vacuum,~~ is at least 773 K.

9. (currently amended) The method as claimed in claim 1 ~~or 8~~, ~~characterized in that~~ wherein the heating is carried out inductively.

10. (currently amended) The method as claimed in ~~one or more of the preceding claims, characterized in that~~ claim 1, wherein a ~~the~~ hydrogen concentration in the workpiece after cooling is less than 1.5% by weight in titanium.

11. (currently amended) The method as claimed in claim 10, ~~characterized in that~~ wherein the hydrogen concentration is 0.5% by weight.

12. (currently amended) The method as claimed in claim 1, ~~characterized in that~~ wherein at least one of surface oxides ~~and/or~~ and further covering layers are removed from the workpiece~~, at least in regions,~~ prior to the heating.

13. (currently amended) The method as claimed in claim 12, ~~characterized in that~~ wherein the at least one of surface oxides ~~and/or~~ and further covering layers are removed by ~~means of~~ an etching solution.

14. (currently amended) The method as claimed in claim 13, ~~characterized in that~~ wherein the etching solution ~~used~~ is a mixture ~~consisting of~~ comprising H_2O, HNO_3, HF and H_2O_2.

15. (currently amended) The method as claimed in claim 14, ~~characterized in that~~ wherein the etching solution ~~used~~ is a mixture of 50 ml of H_2O, 50 ml of HNO_3, and 10 ml of ~~the~~ a solution of [12 ml of HF + 70 ml of H_2O_2].

16. (currently amended) A workpiece for use in the method as claimed in ~~one or more of the preceding claims, consisting of~~ claim 1, comprising TiAl6V4.

17. (currently amended) The workpiece as claimed in claim 16, ~~characterized in that~~ wherein lanthanum is admixed with the ~~alloy~~ TiAl6V4.

18. (currently amended) The workpiece as claimed in claim 17, ~~characterized in that the~~ wherein a lanthanum content amounts to 0.3 - 3 atomic%.

19. (currently amended) The workpiece as claimed in claim 16, ~~characterized in that~~ wherein cerium is admixed with the ~~alloy~~ TiAl6V4.

20. (currently amended) The workpiece as claimed in claim 19, ~~characterized in that the~~ wherein a cerium content is less than 3 atomic%.

21. (currently amended) An alloy for producing a workpiece made from a titanium-based alloy, ~~characterized by~~ comprising a lanthanum content of 0.3 – 3 atomic%.